

## REMARKS/ARGUMENTS

Claims 1, 11- 21, and 27-44 are pending in the present application. Claims 2-10 and 22-26 have been canceled. Claims 1, 11, 16, 18-21, and 27-29 have been amended to better describe the present invention. Claims 30-44 have been added.

1. Examiner did not consider the reference entitled "Viscous Attenuation of Acoustic Waves in Suspensions" because the reference lacked a publication date. The article was published in 1989. Applicants therefore request that this reference be considered.

2. Claims 1-5, 7-15 and 17-29 stand rejected under 35 U.S.C. §102(e) as being anticipated by Lynnworth (US Patent Application Publication 2004/0011141).

Regarding independent claims 1, 11 and 21, Examiner contends that Lynnworth discloses all the limitations of Applicants' claimed invention. Specifically, Examiner contends that Lynnworth discloses "processing the sensor signals to define a convective ridge of in the  $k$ - $\omega$  plane, and determining the slope of at least a portion of the convective ridge to determine the flow velocity of the fluid." Examiner specifically cites page 4, section 0052 of Lynnworth to support this contention. Applicants respectfully traverse the Examiner's rejection in light of the newly amended claims 1, 11 and 21.

Applicants have reviewed this portion of Lynnworth and do not find teaching to support the Examiner's contention. Section 0052 of Lynnworth appears to teach that an ultrasonic sensor is used to measure transit time to provide a density measure of the fluid. Applicants cannot find any reference to defining a convective ridge in the  $k$ - $\omega$  plane, which is used to define the flow velocity as claimed by Applicants.

Applicants, therefore, submit that claims 1, 11 and 21 are not anticipated by Lynnworth for at least these reasons, and it is respectfully requested that these claims be reconsidered and allowed.

3. Claims 12-15, 17-20 and 27-29 variously depend on independent claim 11, and therefore are not anticipated by Lynnworth for at least the reasons provided hereinbefore. It is respectfully requested that these claims be reconsidered and allowed.

4. Claims 2-5, 7-10, and 22-26 have been canceled. The rejection is therefore moot.
5. Claims 6 and 16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lynnworth (US Patent Application Publication 2004/0011141) in view of Gysling (US Patent 6,609,069). Claim 16 variously depends on independent claim 11, and therefore is not rendered obvious by Lynnworth in view of Gysling. It is respectfully requested that claim 16 be reconsidered and allowed for at least the reasons provided hereinbefore.
6. Claim 6 has been canceled. The rejection is therefore moot.
7. Newly added dependent claims 30-40 variously depend on independent claim 11, and therefore are not anticipated or obvious for at least the reasons provided hereinbefore, and it is respectfully requested that these claims be allowed.
8. Regarding newly added independent claim 41, Applicants contend that Lynnworth does not include or teach all the limitations of the newly added claim. While Lynnworth discloses a plurality of ultrasonic sensors to determine the velocity of the fluid, Lynnworth does not include "an array of at least three ultrasonic sensors disposed longitudinally at predetermined locations along the conduit along a longitudinal direction of the conduit," as recited in claim 41. Specifically, the sensors (20,22,30, 32) shown in Fig. 2 are not disposed at predetermined locations along the conduit along a longitudinal direction of the conduit.  
Applicants, therefore, submit that claim 41 is allowable for at least these reasons, and it is respectfully requested that this claim be allowed.
9. Newly added dependent claim 42 variously depends on independent claim 42, and it is respectfully requested that this claim be allowed for at least the reasons provided hereinbefore.
10. Regarding newly added independent claim 43, Applicants contend that Lynnworth does not include or teach all the limitations of the newly added claim. Specifically, Lynnworth does not show ultrasonic sensors that provide "a respective sensor signal indicative of a parameter of an ultrasonic signal propagating through the fluid substantially orthogonal to the direction of the fluid flow."(emphasis added) Contrary to Applicants' claimed invention, Lynnworth shows that the ultrasonic sensors transmits ultrasonic energy "along multiple V paths in multiple parallel

quadrature planes though the fluid" (see abstract, Fig. 2). This V path is not orthogonal to the direction of the fluid flow.

Applicants, therefore, submit that claim is allowable for at least these reasons, and it is respectfully requested that this claim be allowed.

11. Regarding newly added independent claim 44, Applicants contend that Lynnworth does not include or teach all the limitations of the newly added claim. Specifically, Lynnworth does not show "a processor using an array processing algorithm to determine the flow velocity of the fluid." Contrary to Applicants' claimed invention, Lynnworth shows that the flow velocity is determined by measuring the transit time of "the ultrasonic energy through the fluid with and against the flow direction of the fluid." (see abstract of Lynnworth, page 1, para. 0013, and page 3, para. 0042) The counterpropagation technique of determining the velocity of the fluid is not the same as Applicants claimed array processing algorithm.

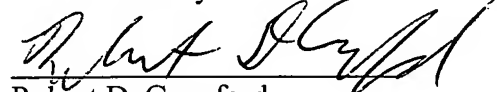
Applicants, therefore, submit that claim 44 is allowable for at least these reasons, and it is respectfully requested that this claim be allowed.

12. In view of the foregoing, it is respectfully requested that the application be reconsidered and allowed. If the Examiner is not prepared to allow all the claims in view of the discussion herein, Applicants hereby respectfully request a phone interview with the Examiner at the Examiner's earliest convenient. Applicants' counsel can be reached at 203-626-3502 (direct dial) between the hours of 8:00 a.m. and 5:00 p.m., or by E-mail at [rcrawford@cidra.com](mailto:rcrawford@cidra.com).

13. A petition for a three-month extension of time under 37 CFR 1.136 is submitted herewith. Please debit our Deposit Account No. 50-0260 Order No. CC-0700 to cover the fees of **\$450.00** for the additional claims and **\$1020.00** for the three (3) month extension of time. Any deficiency or overpayment should be charged or credited to Deposit Account No. 50-0260 Order No. CC-0700.

Respectfully submitted,

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